Epidemiologic Report

Maricopa County Department
of Public Health
Jan-March 2002

Inside this Issue

World Series Surveillance System

What if a bioterrorism event occurred in the Valley? Would we be able to spot it quickly enough to keep it from spreading? Would we know soon enough to alert medical providers? Thanks to a test conducted at 15 Arizona hospitals in October and November, we are better prepared to conduct surveillance of disease outbreaks and bioterrorism events.

During the World Series and NASCAR events held in the Valley in October and November of 2001, the Arizona Department of Health Services and the Maricopa County Department of Public Health worked with the Centers for Disease Control and Prevention (CDC) to set up a surveillance system in fifteen Arizona hospitals and urgent care centers.

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World Series Surveillance (continued)

"Happily, there were no patterns or individual cases that indicated a naturally occurring or terrorist-induced outbreak."

The purpose of the system was to quickly detect any clustering of syndromes that deviated from the usual seasonal patterns and investigate any unusual cases immediately. In order to track this information, hospital staff members filled out forms and indicated applicable syndromes for each patient. Syndromes included upper or lower respiratory infection with fever, sepsis or non-traumatic shock and others. The information from these forms was entered in a CDC website daily. Any unusual occurrences were flagged and investigated immediately. Happily, there were no patterns or individual cases that indicated a naturally occurring or terrorist-induced outbreak.

The next step is to evaluate the system's sensitivity, specificity, cost, and the staff acceptability of the system. Both ADHS and MCDPH will conduct evaluations and explore the "lessons learned." ?

Team Hits Home Run with World Series System

A big thank-you goes out to all of those who helped set-up and maintain the World Series Surveillance System. Many MCDPH, ADHS, CDC, and hospital staff members spent long hours— some on weekends — to make the system work. Because of these hard workers, the system was put in place in only three days, much to the amazement of those who set up similar systems in other places. Hats off to all of you! ?

Prepared by the Division of Epidemiology and Data Services (All 602 Area Code)

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To report communicable diseases, unusual health occurrences, and public health emergencies (All 602 Area Code)

	Business Hours (M-F 8am-5pm)	After Business Hours
Rabies	506-6924	506-3334
Bite Reports	506-7387	506-2752
Communicable Disease	506-6868 or 506-6767	339-8749
TB	372-6661	339-8749
STDs (other than HIV)	506-6364 or 506-6147	Not available
HIV (reports)	506-6426 or 506-6871	Not available
Death certificates, funeral homes, human remains	506-6805	450-9982 or 420-2839
Public Health Emergencies	339-8749	339-8749

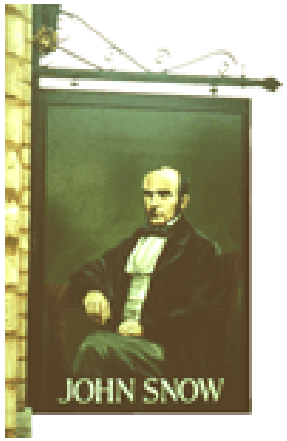
For change of name or address or to be removed from/added to the mailing list, please email Heather Wanatowicz at heatherwanatowicz@mail.maricopa.gov or (602) 506-6825.

Epi Focus: John Snow

Article taken from: *Centers for Disease Control and Prevention, Division of Bacterial & Mycotic Diseases*

John Snow, a creative if unassuming London physician, achieved prominence in the mid-nineteenth century as an obstetrician who was among the first to use anesthesia. It is his work in epidemiology, however, which earns him his position among epidemiologists and public health practitioners.

During the 1830s and 1840s, when severe cholera epidemics threatened London, Snow had become interested in the cause and transmission of the disease. In 1849, he published a brief pamphlet, On the Mode of Communication of Cholera, suggesting that cholera is a contagious disease caused by a poison that reproduces in the human body and is found in the vomitus and stools of cholera patients. He believed that the main, although not only, means of transmission was water contaminated with this poison. This differed from a commonly held theory that diseases are transmitted by inhalation of vapors. The pamphlet caused no great stir, and Snow's argument was only one of many hopeful theories proposed during a time when cholera was causing great distress.



Snow was able to prove his theory in 1854, when another severe epidemic of cholera occurred in London. Through painstaking documentation of cholera cases and correlation of the comparative incidence of cholera among subscribers to the city's two water companies, he showed that cholera occurred much more frequently in customers of one water company, the Southwark and Vauxhall. This company drew its water from the lower Thames, where it had become contaminated with London sewage, whereas the other company obtained water from the upper Thames. Snow's evidence soon gained many converts.

A striking incident during this epidemic has now become legendary. In one particular neighborhood, the intersection of Cambridge Street and Broad Street, the concentration of cholera cases was so great that the number of deaths reached over 500 in 10 days. Snow investigated the situation and concluded that the cause was centered around the Broad Street pump. He advised an incredulous but panicked assembly of officials to have the pump handle removed, and when this was done, the epidemic was contained.

The pump handle has remained a symbol of effective epidemiology, and today the John Snow Pub, located near the site of the former pump in London, boasts of having the "original" handle. A John Snow Society has been formed to honor the memory of the epidemiologist (the only requirement being that one visit the John Snow Pub while in London). Snow was a skilled practitioner as well as an epidemiologist, and his creative use of the scientific information of his time is an appropriate example for those interested in disease prevention and control. ?

AIDS and HIV in Maricopa County

As of January 1, 2002 there had been a total of 5,527 cases of AIDS diagnosed and reported in Maricopa County. As of this date there were also an additional 3,792 persons diagnosed and reported as HIV positive. In this report, cases are classified by date reported to the CDC and therefore may not match other reports in which cases are classified by the date of diagnosis.

Data for the past 4 years should be utilized only with the understanding that presently there is a 1.6 year average lag time between diagnosis and reporting.

The increases in the number of cases reported in 1998 and 1999 are artifacts of reporting and not true increases in incidence. Changes in staffing levels made the processing of a backlog of cases possible. ?

	AIDS Counts	AIDS Incidence Rate	HIV Counts	HIV Incidence Rate
<1990	788	NA	367	NA
1990	224	10.6	391	13.7
1991	335	15.4	266	12.2
1992	348	15.6	197	8.8
1993	544	23.8	136	6.0
1994	416	17.8	208	8.9
1995	524	20.5	209	8.2
1996	311	11.8	195	7.4
1997	287	10.5	194	7.1
1998	440	15.7	306	10.9
1999	642	22.3	466	16.2
2000	279	9.4	300	10.2
2001*	355	11.1	409	12.8

* As reported through 01/01/2002. Data are provisional. July 1 population estimates specific for each year. Sources: ADHS, Office of HIV/AIDS Services and MCDPHS, Division of Epidemiology and Data Services.

Selected Communicable Diseases Summary

Confirmed, Probable, and Outbreak Cases by Selected Dates
Source: MCDPH Database, as of February 21, 2002

	Jan-Dec 2001		Jan-Dec 2000	
	Cases	Rate	Cases	Rate
VACCINE PREVENTABLE				
MEASLES	1	0.03	0	0.00
MUMPS	3	0.09	7	0.23
PERTUSSIS	212	6.64	102	3.32
RUBELLA	0	0.00	2	0.07
CENTRAL NERVOUS SYSTEM				
ASEPTIC MENINGITIS (VIRAL)	196	6.14	165	5.37
OTHER MENING.	23	0.72	44	1.43
ENCEPHALITIS, VIRAL, OTHER	0	0	3	0.10
H. FLU-INVASIVE	37	1.16	34	1.11
ENTERIC				
AMEBIASIS	20	0.63	22	0.72
CAMPYLOBACTERIOSIS	328	10.28	284	9.24
CRYPTOSPORIDIOSIS	6	0.19	8	0.26
E. COLI O157:H7	17	0.53	34	1.11
GIARDIASIS	206	6.45	234	7.62
SALMONELLOSIS	290	9.08	362	11.78
SHIGELLA-ALL	194	6.08	252	8.20
FUNGAL				
CRYPTOCOCCOSIS	5	0.16	2	0.07
HEPATIDES				
HEPATITIS A	169	5.29	171	5.57
HEPATITIS B	322	10.09	468	15.23
HEPATITIS B (CHRONIC)	147	4.61	93	3.03
HEPATITIS C*	1454	45.55	1689	54.98
HEPATITIS D	7	0.22	3	0.10

Communicable Diseases Summary

(continued)

	Jan-Dec 2001		Jan-Dec 2000	
	Cases	Rate	Cases	Rate
ZOONOTIC				
BRUCELLOSIS	4	0.13	1	0.03
MALARIA—ALL TYPES	13	0.41	6	0.20
LYME DISEASE	5	0.16	2	0.07
OTHER				
LEGIONELLOSIS	11	0.34	14	0.46
LISTERIOSIS	9	0.28	9	0.29
STREP PNEUMO BACT/SEPT	151	4.73	343	11.16
STREP PNEUMO INVASIVE	83	2.60	33	1.07
STREP PNEUMONIA	49	1.54	36	1.17
STREPTOCOCCAL- GRP A	111	3.48	129	4.20
STREPTOCOCCAL- GRP B	63	1.97	67	2.18
TETANUS	1	0.03	1	0.03
VRE (VANC RES ENTERO)	363	11.37	456	14.84
TOTAL	4500		5076	

* Items with asterisk may not include all cases reported in 2001. Data are provisional. Rates are per 100,000 population using U.S. Census Bureau Estimates, 03/29/2001. Cases are selected by date of 1) onset, 2) diagnosis, 3) lab finaled, or 4) receipt (default). May not include all diseases. Contact MCDPH for additional data.

Next Month in the
Quarterly Epidemiologic Report…
- Census
- Influenza Report